

An observation on the Himalayan Striped Squirrel (*Tamiops mccllellandi kongensis*) in North Thailand (Rodentia, Sciuridae)

Muhabbet Kemal Ahmet Ömer Koçak

The genus *Tamiops* was established by Allen (1906) with the type species, *Tamiops maritimus hainanus* Allen, 1906. The genus is currently composed of four species, *mccllellandi* Horsfield, 1840, *rodolphi* Milne-Edwards, 1867, *swinhoei* Milne-Edwards, 1874 and *maritimus* Bonhote, 1900 inhabiting in Indo-china subregion of South-East Asia. Among them, the *Tamiops mccllellandi* Horsfield (Himalayan or Burmese Striped Squirrel) is represented by the subspecies *collinus* Moore, 1958, *kongensis* Bonhote, 1901, *barbei* Blyth, 1847, *inconstans* Thomas, 1920, *leucotis* Temminck, 1853, and the nominate one. In North Thailand, two representatives, *collinus* Moore and *kongensis* Bonhote are locally found in plains and mountainous areas, respectively. *Tamiops mccllellandi kongensis* is the sole dorsally striped Squirrel around Chiang Mai; therefore it is easy to identify when observed among other diurnal Squirrel (Baker, 2009). All the species of the of the genus are active by day in habits and this group was well studied taxonomically by Moore and Tate (1965).

According to the IUCN Reports (Duckworth, Lunde and Molur, 2008), the genus *Tamiops* needs taxonomic review. Species limits are unresolved. This may be a species complex. *Tamiops mccllellandi* was listed as Least Concern in view of its wide distribution, presumed large population, it occurs in a number of protected areas, has a tolerance of a degree of habitat modification, and because it is unlikely to be declining fast enough to qualify for listing in a more threatened category. The subspecies *Tamiops mccllellandi kongensis*, described by Bonhote (1901), is currently confined to the western mountainous areas of North Thailand and known from only several places, i.e, Raheng (type), Doi Suthep (observed) (**Fig. 1**), Chiang Mai (observed), Chiang Dao (observed) (**Fig. 2**), Doi Inthanon (observed), Doi Saket (observed) (**Fig.3**), Mae Hong Song (observed) (**Fig.4**), Doi Hua Mot, Doi Phra Chao, Nan, Koon Tan, Chump Poo, Mesarieng, Chiang Tao, Pitsanulok, Pran, Srirarcha,



Fig. 1 - Habitat of *Tamiops mccllellandi kongensis* (observed) North Thailand, Doi Suthep NP, 360m 7 11 2006 M Kemal (Cesa)



Fig. 2 - Habitat of *Tamiops mccllellandi kongensis* (observed) North Thailand, Chiang Dao 465m 12 11 2006 M Kemal (Cesa)



Fig. 3 – Habitat of *Tamiops maclellandi kongensis* (observed) North Thailand, Doi Saket, Huay Pa Toen village 440m 9 4 2006 M Kemal (Cesa)



Fig. 4 – Habitat of *Tamiops maclellandi kongensis* (observed) North West Thailand, Mae Hong Song, 26 3 2006 M Kemal (Cesa)



Figs. 5, 6 - *Tamiops macclelandi kongensis* (Sciuridae) North Thailand, Doi Suthep NP, M Kemal (Cesa)

Nakorn Sawan, Pujeg, Rajpuri, Paktoo, Kanjanapuri, Kanachanaburi, Ban Klua Klan, Prachuap Kiri Khan, and Kampheng Phet (see also Moore and Tate, 1965).

During entomological excursion of the authors in 2006, individuals of *Tamiops maclellandi kongensis* were observed often singly in several places mentioned above. Individuals of this subspecies may be seen in various habitats with trees, including secondary growth forest, dry dipterocarp forests, and gardens. It is apparently widespread but locally found and rare in its range. Dangers to this subspecies appears as hunting pressure, habitat degradation, and gradually increasing annual fires of National Parks in Thailand caused by local people.

Among the observed sites, in the lower slopes of Doi Suthep National Park near Chiang Mai city, some behaviours of an individual of *Tamiops maclellandi kongensis* was also recorded in Video among the tree branches by the first author.¹ In the earlier collector notes, brief behavioural descriptions of the species may be seen (Wroughton, 1916). It is stated that they were usually seen high up in tall trees, moving in short rushes and then staying motionless, sometimes head downward, often some minutes at a time. This Squirrel is found in most of the forests above 5,000 feet. It is common but owing to its power of concealment is generally not very easy to find.

Regarding to the behavioral observations of the endemic subspecies *kongensis*, it was recorded and filmed by the first author apparently for the first time (**Figs. 5, 6**). The exact date and place of the recorded individual is inside of Chiang Mai University Campus at the lower slopes of Doi Suthep NP, with the geographical coordinates 18° 48'07" North, 98° 57'09" East, at an elevation 340m above sea level on 10 November, 2006.

Tamiops maclellandi kongensis was observed at Doi Suthep NP together with two other diurnal Squirrel species in the same habitat, *Callosciurus finlaysonii* Horsfield, 1824, and *Callosciurus caniceps* Gray, 1842.

We are of the opinion that such observations may be useful for the further conservation researches on this "Least Concern" subspecies of diurnal Squirrels.

References

- Allen, J. A., 1906**, Mammals from the island of Hainan, China. *Bulletin American Museum Natural History*, 22, 463-490.
- Baker, N., 2009**, Himalayan Striped Squirrel, [in] Ecology Asia http://www.ecologyasia.com/verts/mammals/himalayan-striped_squirrel.htm Downloaded on 2 March 2009.
- Bonhote, J. L., 1901**, On a second collection of mammals made by Mr. T. H. Lyle in Siam. *Proceedings Zoological Society of London*, 1901, 52-56.
- Duckworth, J.W., Lunde, D. & Molur, S., 2008**, *Tamiops maclellandii*. In: IUCN 2008. 2008 IUCN Red List of Threatened Species. <www.iucnredlist.org> Downloaded on 21 March 2009.
- Moore, J. C., 1958**, New genera of East Indian Squirrels. *American Museum Novitates*, no. 1914, 1-5.
- Moore, J. C. & Tate, G. H. H., 1965**, A Study of the Diurnal Squirrels, Sciurinae, of the Indian and Indochinese Subregions. *Fieldiana (Zoology)* 48: 1-351.
- Wroughton, R. C., 1916**, Bombay Natural History Society's mammal survey of India, Burma and Ceylon. Report No. 23: Sikkim and Bengal Terai. *Journal of Bombay Natural History Society* 24, 468-493.

¹ <http://www.archive.org/details/ObservationsOnTheHimalayanStripedSquirrelAtChiangMainorthThailand>

The re-determination of the *Neurergus* (Salamandridae, Caudata) specimens recently recorded in Şirvan (Siirt, Turkey)

Murat Biricik*

Kemal (2008)² reported recently some newts which were observed in the northern Şirvan (Siirt province, Turkey). The animals were photographed at the spot and identified afterwards by the author as *Neurergus crocatus* Cope, 1862. The identification was however not correct, as the species should not be *N. crocatus* but *Neurergus strauchii* (Steindachner, 1887). In this note I'll explain why I come to this conclusion.

The Anatolian newt (*N. strauchii*) is an endemic Turkish species and represented by two subspecies; the nominate subspecies is distributed at the mountainous area from the eastern Euphrates to Van Lake, whereas *N. s. barani* Öz, 1994 was described from the Kubbe Mountain near Malatya (Öz 1994) and seems to be restricted to this area (Pasmans *et al.* 2006). Lake Urmiah newt (*N. crocatus*) is described from Urmiah and north-western Zagros in Iran, and Surkev Mountains and Aqrah in Iraq (Schmidtler & Schmidtler 1970, Rastegar-Pouyani 2006). In 1986 it was first discovered in Turkey near Beytüşşebap (Hakkari Province)³ (Baran & Öz, 1986, Başoğlu *et al.* 1994, Baran 2005⁴). Cilo Mountain (4170 m) has been suggested as the natural border for *N. strauchii* in north and *N. crocatus* in south (Schmidtler & Schmidtler 1970).

The geographic position of Şirvan is quite close to a number of known localities for *N. s. strauchii* (see Bogaerts *et al.* 2006). I have also found it near Bitlis city center and these are very similar to the Şirvan specimens (**Figs. 1-2**).

Although I never observed any *N. crocatus* neither living nor conserved material hitherto, there was an occasion last year to deal with this species. In April 2008, at least two animals were caught by Kerem Tatar, who lives in Şırnak and noted the newts during his trip for gathering herbs in Sümbül Mountain (exact locality unknown)⁵. As the “strange” animals awaked public interest, local media gave attention to them, so the journalists returned to me to get information on the species. The finding, and my comments on it, appeared in a number of newspapers and in internet sources as well⁶. The photos of both animals obtained from a journalist are represented in **Figs. 3-4**.

* University of Dicle, Faculty of Science and Letter, Department of Biology, Diyarbakır, Turkey. mbiricik@dicle.edu.tr

² <http://www.archive.org/download/CentreForEntomologicalStudiesAnkaraCesaNewsNr.12/Cesa12.pdf>

³ Beytüşşebap belongs to Şırnak Province [Editorial]

⁴ It is remarkable that in Baran (2005, pp. 10-11) distribution areas of both referred species are mistakenly reverse stated!

⁵ Sümbül Mountain is located South of Hakkari city, Hakkari Province [Editorial].

⁶ One of these reports with a video is still available at the link below (access date: 25.02.2009). In the film, captured animals are shown alive. At the most end of the sequence, the belly part of an individual is also visible, though for a very short time.
<http://www.haber7.com/haber/20080421/Sirnakta-yeni-surungen-turu-mu.php>



Fig. 1- *Neurergus s. strauchii* in Bitlis (c. 1600 m), 20.05.2006, Photo: M. Biricik©



Fig. 2- *Neurergus s. strauchii* in Bitlis (c. 1600 m), ventral view of the specimen in Fig. 1, 20.05.2006, Photo: M. Biricik©



Fig. 3- *Neurergus crocatus* from Sümbül Mountain (Şırnak province), ♂ (above) and ♀, 27.05.2008, Photo: N. Kadirhan©



Fig. 4- *Neurergus crocatus* from Sümbül Mountain (Şırnak province), adult ♂, 27.05.2008, Photo: N. Kadirhan©

How to distinguish the two species?

N. strauchii can be distinguished from *N. crocatus* by a few characters. *N. strauchii* have a less (about only 1-2 mm) protruding cloak in ♀, and by silver blue spots on tail of ♂. But this is mainly visible in breeding season. The belly coloration however is more different, and is not depending on the breeding season. *N. strauchii* have a predominantly dark underneath (throat, belly, underside of hands and legs) (Schmidtler & Schmidtler 1970), whereas *N. crocatus* has an orange coloured belly, underside of arms and legs with only some small isolated black spots. In the table below, main characters described by Schmidtler & Schmidtler (1975) to distinguish the species are given.

	<i>N. strauchii</i>	<i>N. crocatus</i>
Total length of ♂/♀:	16/19 cm	16/18 cm
Back side:	Small (2 mm in diameter) yellow to orange spots	Large (4 mm) and small (2 mm in diameter) yellow spots
Throat:	Black, orange edged; often yellow spots	Unicoloured yellow to reddish orange
Belly:	Black flanks push back the orange to red coloured belly up to the center	Unicoloured yellow to reddish orange
Extremities under part:	Greyish black	Unicoloured orange
Tail laterals:	Small yellow to orange spots; additionally, array of silver blue spots on adult ♂	Large yellow spots ⁷ ; no sexual dimorphism



Fig. 5- *Neurergus crocatus* ♂ in breeding condition, from Aqrah (Northern Iraq). Photo: S. Bogaerts©

An examination of all the photos (Şirvan, Bitlis and Şırnak specimens) reviewing the known differences shows clearly that the newts of Şirvan are to be a matter of re-nomination. Especially noticeable are the considerably larger and fewer spots particularly on the laterals of back side in *N. crocatus* (Figs. 3-4), and typical pattern on the belly (black with a narrow yellow or reddish median zone) in *N. strauchii* (Fig. 2). Additionally, for *N. crocatus*, the belly colour is usually

⁷ In males, these spots can turn whitish in breeding season, as can be seen in Figs. 4 and 5 (S. Bogaerts, pers. comm.).

more or less visible also from the side view (**Figs. 4-5**), which is nicely shown in Baran & Öz (1986).

Acknowledgements: I wish to thank Dr. S. Bogaerts for his guiding helps in every stage of this work, and N. Kadirhan for submitting the photos of Şırnak specimens.

References

- Baran, İ. & M. Öz, 1986.** On the occurrence of *Neurergus crocatus* and *N. strauchii* in Southeast Anatolia. *Zoology in the Middle East* 1: 96-99.
- Baran, İ., 2005.** Türkiye Amfibi ve Sürüngenleri [The Amphibians and Reptiles of Turkey].- Tübitak Popüler Bilim Kitapları 207, Ankara.
- Başoğlu, M., N. Özeti & İ. Yılmaz, 1994.** Türkiye Amfibileri [The Amphibians of Turkey – Taxonomic List, Distribution, Key for Identification].- Ege. Üniv. Fen Fak. Kitaplar Serisi 151, İzmir.
- Bogaerts, S., F. Pasmans & T. Woeltjes, 2006.** Ecology and conservation aspects of *Neurergus strauchii* (Amphibia: Salamandridae).- In: M. Vences, J. Köhler, T. Ziegler, W. Böhme (eds.): *Herpetologia Bonnensis* II. Proceedings of 13th Congress of the Societas Europaea Herpetologica, 15-18.
- Kemal, M., 2008.** A new record of *Neurergus crocatus* (Cope, 1862) in South East Turkey (Salamandridae, Caudata).- *Cesa News* 12: 6-11.
- Öz, M., 1994.** A new form of *Neurergus strauchii* (Urodela, Salamandridae) from Turkey.- *Tr. J. Zool.* 18: 115-117.
- Pasmans, F., S. Bogaerts, S., T. Woeltjes & S. Carranza, 2006.** Biogeography of *Neurergus strauchii barani* Öz, 1994 and *N. s. strauchii* (Steindachner, 1887) (Amphibia: Salamandridae) assessed using morphological and molecular data.- *Amphibia-Reptilia* 27: 281-288.
- Rastegar-Pouyani, N., 2006.** Conservation and distribution of *Neurergus microspilotus* (Caudata: Salamandridae) in the Zagros Mountains, Kermanshah Province, Western Iran.- In: M. Vences, J. Köhler, T. Ziegler, W. Böhme (eds): *Herpetologia Bonnensis* II. Proceedings of the 13th Congress of the Societas Europaea Herpetologica, 115-116.
- Schmidtler, J. J. & J. F. Schmidtler, 1970.** Morphologie, Biologie und Verwandtschaftsbeziehungen von *Neurergus strauchii* aus der Türkei (Amphibia: Salamandridae).- *Senckenbergiana biol.* 51(1/2): 41-53.
- Schmidtler, J. J. & J. F. Schmidtler, 1975.** Untersuchungen an westpersischen Bergbachmolchen der Gattung *Neurergus* (Caudata, Salamandridae).- *Salamandra* 11(2): 84-98.



Announcements of the Cesa Publications

Short Documentary Films

Two short documentary films by Muhabbet Kemal were published in the following online addresses:

Kemal, M., 2009, Observations on the Himalayan Striped Squirrel (*Tamiops mccllellandi*) at Chiang Mai (North Thailand) (*Rodentia, Sciuridae*). MPEG2 file. Duration 4 min 32 sec.
<http://www.archive.org/details/ObservationsOnTheHimalayanStripedSquirrelAtChiangMainorthThailand>

Kemal, M., 2009, Observations on some behaviours of *Ancyra vicina* Lall. in North Thailand (*Homoptera, Eurybrachidae*). MPEG2 file. Duration 6 min. 01 sec.
<http://www.archive.org/details/ObservationsOnSomeBehavioursOfAncyraVicinaInNorthThailand>



Centre for Entomological Studies Ankara

(A scientific Consortium)

(co-operation of research workers for pure-scientific, not commercial purpose)

Web Page of the Cesa: <http://www.cesa-tr.org/>

Scientific Serials: Priamus & Supplement (ISSN 1015-8243)⁸, Miscellaneous Papers (ISSN 1015-8235)⁹, Memoirs (ISSN-8227)¹⁰, DVD Films¹¹, Iconographia Insectorum¹², Cesa Publications on African Lepidoptera (series)¹³, Cesa News [online]¹⁴, Cesa Books¹⁵

Owners / Sahipleri - Editors / Yayıncılar: Prof. Dr. Ahmet Ömer Koçak (c/o Yüzüncü Yıl University, Turkey) - Editor Assistant: Asst. Prof. Dr. Muhabbet Kemal Koçak (c/o Yüzüncü Yıl University, Turkey).

Editorial Board of all Scientific Serials / Bütün Bilimsel Yayınların Yayın Kurulu: Insecta, taxonomy, nomenclature, ecology, faunistics: Prof. Dr. Ahmet Ömer Koçak (Yüzüncü Yıl Üniversitesi, Turkey), Asst. Prof. Dr. Muhabbet Kemal Koçak (Yüzüncü Yıl University, Turkey), Asst. Prof. Dr. Selma Seven (Gazi University, Turkey), General Entomology: Assoc. Prof. Dr. Paitoon Leksawasdi (Chiang Mai University, Faculty of Science, Thailand); Homoptera: Dr. Emine Demir (Turkey). Orthoptera: Dr. Piotr Naskrecki (Connecticut University, U.S.A.), Assoc. Prof. Dr. Mustafa Ünal (Abant İzzet Baysal University, Turkey), Asst. Prof. Dr. Yusuf Hüseyinoğlu (Mersin University, Turkey), Asst. Prof. Dr. Yaşar Gülmez (Gazi Osman Paşa University, Tokat). Coleoptera / Chrysomelidae: Assoc. Prof. M.S.Mohammedsaid (Malaysia). - Plant taxonomy, flora and vegetation: Prof. Dr. Lütfi Behçet, Asst. Prof. Dr. Fevzi Özgökçe, Asst. Prof. Dr. Mural Ünal (Yüzüncü Yıl University, Van, Turkey).

ALL RIGHTS RESERVED

Correspondences should be addressed to: Prof. Dr. Ahmet Ömer Koçak, c/o Yüzüncü Yıl University, Fen-Edebiyat Fakültesi, Biyoloji Bölümü, Kampus, Van / Turkey. - e-mails: cesa_tr@yahoo.com.tr - a_kocak@lycos.com

All serials are recorded regularly by the Zoological Record,
Thomson Reuters, Enterprise House, Innovation Way, Heslington, York, YO10 5NY, United Kingdom
ts-emea-york.dcsadmins@thomson.com

⁸ <http://www.cesa-tr.org/Pri.htm> - pdf available after corresponding

⁹ <http://www.cesa-tr.org/Miscell.htm> - pdf available after corresponding

¹⁰ <http://www.cesa-tr.org/Memoirs.htm> -

¹¹ <http://www.cesa-tr.org/CDF.htm>

¹² <http://www.cesa-tr.org/Icon.htm>

¹³ http://www.metafro.be/Members/Cesa/internet_sayfas305/base_view - pdf available

¹⁴ <http://www.cesa-tr.org/Cesaneews.htm>

¹⁵ <http://www.cesa-tr.org/Cesabooks.htm>